THE MINERAL INDUSTRY OF

NORTH KOREA

By Pui-Kwan Tse

The Supreme People's Assembly (Assembly) passed the 2002 budget of 22.2 billion North Korean won (US$1.00=2.21 North Korean won), of which 9.2 billion won was for social programs; 3.5 billion won was for construction; and 3.2 billion won, for defense. The goal for 2002 was to increase exports by improving the quality of commodities and to provide a better investment environment for attracting foreign capital. High-level economic delegations went to China, Russia, Southeast Asian countries, European Union countries, and Africa to promote economic cooperation projects (Korea Now, 2003§[1]).

In July 2002, the Government introduced the most significant economic reform program since the 1950s. It included raising food prices and worker wages, devaluing the North Korean won against the U.S. dollar, and reducing state subsidies for ailing enterprises. The justification for the reform was to reflect the actual value of goods, to motivate workers to increase their productivity, and to improve the livelihood of farmers and workers. The Government stopped providing free food, housing, and utilities and required people to pay for these necessities. People who were in the social security and welfare programs remained free of charge. The reform program did not go as smoothly as planned because factories stopped paying workers and the price of food increased so high that people did not have the money to pay for them (Far Eastern Economic Review, 2002; Washington Post, 2003).

The North Korea needs foreign direct investment in all economic activities. In 2002, the Assembly enacted laws and regulations to attract foreign capital from overseas. The ceiling for foreign shares in joint ventures increased to 70-80% from 50%. The Government set up free economic zones at Rajin-Seonbong near the border with Russia, the Sinuiju Special Administrative Region near the border with China, the Mount Geumgang Tourist Zone, and the Gaesong Industrial Complex. Wholly foreign-owned enterprises were permitted in the zones. Priority sectors for joint ventures were textiles, manufacturing, and minerals processing. The Government also scrapped the special currency for foreigners (Far Eastern Economic Review, 2003).

In 2002, North Korea's trade totaled $2.26 billion, which was a decline of 0.4% compared with that of 2001; of that total, $1.53 billion was for imports, and $730 million was for exports. Owing to an increase in exports and a decline in imports, the trade deficit was reduced sharply to $800 million in 2002 from $970 million in 2001. China remained North Korea's leading trading partner at a value of $738 million. The Republic of Korea replaced Japan as North Korea's second leading trade partner at a value of $642 million and was followed by Japan, $366 million; Thailand, $217 million; India, $191 million; and Germany, $168 million. Major imported products were fertilizer, mineral fuels, and machinery. Products that North Korea exported were textile products, fishery products, and artistic goods. The Republic of Korea imported $15.4 million of zinc products from North Korea. North Korea did not include trade between the two Koreas in its international trade statistics, but did classify it as domestic trade; inter-Korean trade was expected to continue in an upward trend in 2003 (Ministry of Unification, 2003§).

The Korea Zinc Industrial Group (KZIG), which is a ministry-level company, was established in June 2000 to oversee part of the lead and zinc industry in North Korea. The KZIG has expanded its role to include copper mining. The Government assigned KZIG to take over the Sangnong copper mine, which is located around 50 km from Danchon (Tanchon) on the eastern coast of North Korea. The Sangnong mine has an estimated ore reserve of 200 million metric tons of that contains a minimum 0.29% Cu and from 0.8 to1.2 grams per metric ton gold. The Mine had an ore-dressing capacity of 1.5 million metric tons per year and, in the past several years, has produced about 2,500 metric tons per year of copper in concentrate at a grade of no less than 8% copper. An investment of $50 million was required to modernize and expand the mining, transporting, and dressing capacities. The KZIG also planned to build a copper and gold smelter near the mine site; the investment cost was an estimated $50 million. The group was seeking foreign investors to participate in this project and overseas buyers for its concentrates (Metal Bulletin, 2002).

Coal was the main energy source and accounted more than 70% of primary energy consumption in North Korea. In recent years, owing to natural disasters, coal production has declined yearly from its highest level in 1988. The current (2002) output level met only about 50% of the country's demand. Coal resources are located in South Hangyong Province, South Pyongang Province, Hamhung district, and Kaeson City (Jang, 2002)

North Korea has limited petroleum and natural gas resources, but the Korea Bay and the northern part of the country may contain significant amounts of hydrocarbon resources. Korean Oil Exploration Corp. awarded Sovereign Ventures Pte. Ltd. of Singapore a contract to explore for oil and natural gas in the eastern part of the Korean Peninsula and southwest of Vladivostok, Russia. Soverign completed the survey study on one-third of the onshore Tanchon-Rajinits concession and found that the area contained recoverable resources of an estimated 28 billion cubic meters of gas and 50 million barrels of light crude oil. Sovereign Ventures Canada Ltd. agreed to take 25% stake in the concession to perform the exploration. Under the terms of the agreement, Sovereign Ventures Canada Ltd. will pay all operating and capital costs as well as 15% of gross royalties to Sovereign Ventures Pte. Ltd. of Singapore. The partners planned to have a 15-well exploration drilling program set up in late 2002 (Schlumberger Ltd., 2002§).

[1]References that include a section mark (§) are found in the Internet References Cited section.

References Cited

Far Eastern Economic Review, 2002, Mysterious reform: Far Eastern Economic Review, August 8, p. 18.
Far Eastern Economic Review, 2003, Economic fallout: Far Eastern Economic Review, March 20, p. 46.
Jang, C.R., 2002, On the evaluation of production, supply, and use of energy in the DPRK: International Workshop on Upgrading and Integration of Energy Systems in the Korean peninsula, Como, Italy, September 19-21, 2002, 5 p.
Metal Bulletin, 2002, Copper mining next for North Korea group: Metal Bulletin, no. 8698, August 12, p. 6.
Washington Post, 2003, Reforms turn disastrous for North Koreans: Washington Post, January 27, p. A1.

Internet References Cited

Korea Now, 2003, N.K. budget set at $10.03 billion, accessed May 1, 2003 at URL http://kn.koreaherald.co.kr/SITE/data/html_dir/2002/04/11/200204110004.asp.
Ministry of Unification, 2003, May 12, ROK becomes NK's no. 2 trading partner, accessed May 13, 2003 at URL http://www.unikorea.go.kr/en/highlights/highlights.php?/page_code=ue0202&ucd=eng01002&ewn....
Schlumberger Ltd., 2002, Singapore firm says finds more oil, gas in N. Korea, accessed September 3, 2002 at URL http://www.slb.com/print_story.cfm?/storyid=581060.

TABLE 1
NORTH KOREA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		1998	1999	2000	2001	2002
METALS						
Cadmium metal, smelter		100	100	100	100	100
Copper:						
Mine output, Cu content		14,000	14,000	13,000	13,000	13,000
Metal:						
Smelter, primary and secondary		15,000	15,000	13,000	13,000	13,000
Refinery, primary and secondary		16,000	16,000	14,000	14,000	14,000
Gold, mine output, Au content	kilograms	4,500	2,500	2,000	2,000	2,000
Iron and steel:						
Iron ore and concentrate, marketable:						
Gross weight	thousand tons	2,900 r	3,800 r	3,800 r	4,200 r	4,100
Fe content	do.	850 r	1,100 r	1,100 r	1,200 r	1,150
Metal:						
Pig iron	do.	800 r	800 r	800 r	800 r	800
Ferroalloys, unspecified	do.	10	10	10	10	10
Steel, crude	do.	1,000	1,000	1,000	1,000	1,000
Lead:						
Mine output, Pb content		70,000	60,000	60,000	60,000	60,000
Metal:						
Smelter, primary and secondary		60,000	60,000	60,000	60,000	60,000
Refinery, primary and secondary		80,000	75,000	75,000	75,000	75,000
Silver, mine output, Ag content		45	40	40	40	40
Tungsten, mine output, W content		500 r	500 r	500 r	500 r	600
Zinc:						
Mine output, Zn content		100,000	100,000	100,000	100,000	100,000
Metal, primary and secondary		100,000	100,000	100,000	100,000	100,000
INDUSTRIAL MINERALS						
Barite		100,000	70,000	70,000	70,000	70,000
Cement, hydraulic	thousand tons	3,200 r	4,000 r	4,600 r	5,160	5,320
Fluorspar		30,000	25,000	25,000	25,000	25,000
Graphite		35,000	33,000	30,000	25,000	25,000
Magnesite, crude	thousand tons	1,500	1,000	1,000	1,000	1,000
Nitrogen, N content of ammonia	do.	100 r	100 r	100 r	100 r	100
Phosphate rock		450,000	350,000	350,000	350,000	300,000
Salt, all types		550,000	500,000	500,000	500,000	500,000
Sulfur	thousand tons	60 r	41 r	41 r	41 r	42
Talc, soapstone, pyrophyllite		150,000	120,000	120,000	120,000	110,000
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite	thousand tons	13,000 r	15,000 r	16,000 r	16,000 r	17,000
Lignite	do.	5,500 r	5,500 r	6,500 r	7,000	7,000
Total	do.	18,500 r	20,500 r	22,500 r	23,000 r	24,000
Coke	do.	2,000	2,000	2,000	2,000	2,000

rRevised.

[1]Table includes data available through May 30, 2003.

[2]Estimated data are rounded to no more than three significant digits; may not add to total shown.

[3]In addition to the commodities listed, crude construction materials, such as sand and gravel and other varieties of stone, and petroleum products presumably are produced, but available information is inadequate to make reliable estimates of output levels.